Michigan Department of Environmental Quality
Drinking Water and Radiological Protection Division

ANNUAL REPORT TO EPA ON CAPACITY DEVELOPMENT PROGRAM: FY 2001

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Michigan Annual Report to EPA on Capacity Development Program: FY 2001

Current Strategy and Plans for the Future

Michigan's capacity development program has been implemented by the Drinking Water and Radiological Protection Division (DWRPD) through amendments to the Michigan Safe Drinking Water Act, 1976 PA 399, as amended, and by application of capacity development polices and guidance documents. These new authorities have been blended into our long-standing program of technical assistance. The following two documents that have been submitted to the U.S. Environmental Protection Agency (EPA) describe our capacity development program:

- *New Community Water System Capacity Guideline Document*, dated May 1, 2000
- *Capacity Development Strategy for Existing Public Water Systems*, dated August 1, 2000

The new systems program relies on two control points: construction permits and final inspection. New systems also include those that do not meet the definition of a community water system at start-up but are designed to one day meet the definition, and those systems that are not currently a community water system that propose to extend the water system, thereby growing to become a community water system. One exception is a system that simply increases the number of users without altering or constructing water system infrastructure.

Community Water Supplies:

Generally, a construction permit is issued based on the technical capacity of the proposed system. However, the financial and managerial capacity requirements may still be pending while the system is under construction. Only after a final inspection and when the system has demonstrated capacity in all three areas is approval granted to commence operation. A New System Tracking database was also implemented to track the progress of potential systems through the process.

The existing system strategy relies primarily on the capacity assistance component of the state's drinking water program which DWRPD has traditionally referred to as technical assistance. Through routine system evaluations or capacity assessments, DWRPD staff determine which systems need capacity assistance. Based on the wishes of our stakeholders, the DWRPD will not request a capacity assessment of an existing water supply unless violations, deficiencies, or other factors indicate the system lacks technical or managerial capacity. Capacity assistance is provided through the DWRPD staff or through other technical assistance providers to help communities build technical, managerial, or financial capacity. If capacity assistance is not requested or ineffective, Michigan practices a program of progressive enforcement. Plans for the future include continuing the strong tradition of technical assistance provided by the DWRPD staff during visits, evaluations, meetings, and training. Additionally, a stronger emphasis will be placed on encouraging communities to use the services of other technical assistance providers, many times at no cost to the systems.

Nontransient Noncommunity Water Supplies (NTNCWS)

The DWRPD has delegated the authority to local health departments (LHDs) to review, approve, and issue construction permits. When water suppliers begin the permit application process, the LHD helps them outline their financial and managerial capacity. Prior to receiving approval to commence operation, these NTNCWS must submit a financial plan and a managerial plan that includes a contingency plan, designation of a certified operator, etc. The program goal is to insure safe and adequate drinking water is provided at noncommunity water systems. Compliance with Act 399 is the primary yardstick for progress in meeting this goal. Capacity development is a means to improve compliance. DWRPD routinely measures the compliance status of noncommunity water systems, including nontransient supplies. This information is used to prioritize technical assistance as well as educational and enforcement efforts as described in the next section.

		FY 2000	**FY 2001**
Total number of new systems • Proposed • Approved, or • Commenced operation	CWS	52	23
	NTNCWS	10+	26
Number of proposed systems • Not yet approved, and • Not yet commenced operation	CWS	45	19
	NTNCWS	The DWRPD has delegated the authority to LHDs to review, approve, and issue construction permits. LHDs do not track the number of applications for permits.	
Approved but not yet commenced operation	CWS	All approved systems have commenced operation. For manufactured housing communities (MHC), DWRPD tracks when they are **APPROVED** to commence operation. MHC may have other licensing criteria to meet with another state agency.	
	NTNCWS		
Commenced operation during the fiscal year	CWS	7	6
	NTNCWS	10	26
Not in compliance and reason for noncompliance	CWS	Currently all comply	Currently all comply
	NTNCWS		

Methods or criteria used to prioritize systems and to measure improvements

The DWRPD established methods and criteria to identify and prioritize existing systems for capacity assistance in the *Strategy* cited above. These methods and criteria are still in place and are also used to measure improvements in capacity, though some mechanisms have been refined and updated.

Compliance Information

Compliance is tracked in each of the state's eight districts by the resource analyst, a position created in 1996 to handle the ever-increasing tracking and complex compliance determinations so that engineering staff could concentrate on technical assistance. As these resource analysts have gained experience, violations have been more consistently and accurately reported. Currently DWRPD district engineers and resource analysts are moving the water system inventory from a local database into SDWIS-state database. Until compliance tracking is also transitioned into SDWIS-state, we are continuing to improve our local compliance tracking information systems. Information used to "target" those systems most in need of capacity assistance are:

- Maximum contaminant level and treatment technique violations
- Waterborne disease outbreaks
- Action level exceedences, monitoring, and reporting violations
- Failure to obtain and/or violation of a construction permit

Evaluations and Surveillance Visits

The DWRPD has increased surveillance visits and evaluation surveillance visits with these two initiatives:

- Using a new tracking system
- Updating performance objectives for district staff

During FY 2001, DWRPD transitioned to a more sophisticated system to track information and conclusions from evaluations and visits. Using the new tracking system, staff are able to track the overall evaluation of systems and see whether they have improved or declined in their capacity. We expected to experience a loss of statistical information during the transition, however, FY 2001 data reflects:

- A slight increase in the number of visits conducted
- A slight increase in the number of construction permits issued
- Nearly the same number of evaluations conducted

Any tracking data that might have been lost in the transition does not impact on our program because all evaluation and visit documentation is kept in the district offices. This workload was maintained in spite of a state-wide hiring freeze which kept several of our districts at less than full staff and a time-consuming concentrated campaign to transition our inventory from a local data system to SDWIS-state.

DWRPD has integrated specific annual targets into staff performance objectives for evaluations and surveillance visits. Examples of the measurements are:

- Recommended percent of surveillance visits conducted, percent of systems visited
- Percent of systems evaluated, number of systems determined to be "deficient" according to division policy

Staff are expected to document evaluations and visits within 30 days.

Escalated Enforcement

Also integrated into staff performance objectives are specific targets to return systems to compliance. Violations are expected to be addressed in a timely manner and fines issued for those systems failing to conduct monitoring or meet standards.

Examples of the measurements are:

- Number of systems returned to compliance prior to issuance of a Notice of Violation (NOV) or escalated enforcement
- Number of deficient systems where an NOV or escalated enforcement is initiated.
- Average length of time to return a system to compliance when an NOV or escalated enforcement is initiated

The manufactured housing community sector of the community water supply program has increased efforts this year to issue Certificates of Noncompliance. These certificates are issued to communities subject to state licensure that do not comply with various public health statutes and rules including drinking water. Certificates were issued to two community water supplies in FY 2000 and to six in FY 2001. An additional 22 communities would have received a Certificate of Noncompliance because of outstanding or pending public health issues, however, time and staff constraints prevented these actions.

Operation and Maintenance Problems

This year DWRPD integrated an "important deadlines" module in our evaluation information tracking system. DWRPD district staff may use this module to track operation and maintenance milestones established as a result of formal evaluations, visits, or consent or department orders that the DWRPD expects the suppliers to meet to return to compliance. Examples of problems staff may need to track are:

- Hydrant and main flushing
- Valve turning program
- Pump and motor maintenance program
- Main break frequency information
- Wellhead protection program/source water protection plans
- Monthly operation reports
- Recordkeeping
- Clearwell and finished water reservoir maintenance programs

DWRPD District Staff Input

This vital element remains the primary factor to prioritize systems for capacity assistance.

Nontransient Noncommunity Water Supplies (NTNCWS)

DWRPD contracts with Local Health Departments (LHD's) to provide noncommunity program services on a statewide basis. The contracts set standards of performance and hold LHD's accountable for enforcement of Act 399. The rates of compliance with requirements for noncommunity water systems are tracked on a quarterly basis. Tracking is focused on

monitoring and reporting, drinking water standards, sanitary survey frequency, and significant noncompliers (SNC's). In addition to the quarterly updates, all local health departments are evaluated annually to determine if they are meeting contract requirements. This includes acceptable rates of compliance for the systems in their jurisdiction, review of LHD records for selected noncommunity systems, and field verification at selected noncommunity supplies. A LHD with a violation rate that exceeds a target level, can be found to be in noncompliance with contract requirements. Those agencies must submit an acceptable corrective action plan describing steps that will be taken to improve noncommunity water systems compliance under their jurisdiction. Repeated failure to improve system compliance can result in termination of the contract and funding.

Summary of different activities to help existing system improve their capacity

Technical Assistance

Technical assistance has been integral to Michigan's drinking water program for decades, although it was not always referred to as such. Assistance or consultation has been the preferred method to prevent systems from falling into noncompliance. At times, however, the district engineers serve as both technical assistance providers as well as enforcers.

DEQ Capacity Assistance

A primary objective of the DWRPD is to provide excellent customer service. A means by which the DWRPD measures the success of that objective is through technical assistance to community water systems through meetings, on the phone, and during site visits.

After a routine evaluation (sanitary survey), district engineers detail their findings and recommendations in a letter to the supplier within 30 days. Evaluation letters help suppliers understand the severity of the deficiencies and importance of acting on the engineer's recommendations. Examples of deficiencies corrected following a less than satisfactory evaluation are: obtained certified operator within an acceptable time, installed a plant tap sample, initiated work to increase firm pumping capacity and/or projected growth capacity, completed a reliability study, investigated funding for improvements, applied for DWRF funds to correct distribution system concerns, applied for Community Development Block Grant through the township.

Many times a one time capacity assistance meeting is sufficient to keep systems in compliance. In other situations, the district engineers spend more time with the supplier to help solve more complicated concerns. Often, water system operators want to comply but they do not have the financial resources or support from community leaders to make the changes that are necessary. However, when options are particularly expensive, or when acceptable alternatives are not readily available, the DWRPD may be reluctant to begin enforcement. When these difficult cases arise, the DWRPD increases surveillance activities and attempts to address potential enforcement action at the same time.

As a result, district staff may attend municipal board meetings or council meetings to discuss a compliance schedule with specific items and completion dates and discuss the possibility of formalizing the schedule in a compliance schedule that is incorporated into a consent order.

Community leaders need to hear the benefits of agreeing to a course of action that allows them time to address their problems without further enforcement or fines. During this time, district staff will be more closely involved as a capacity assistance provider in helping the supplier meet the deadlines of the order.

Many of the district engineers are working more closely with community leaders and encouraging them to attend regional meetings and training sessions for waterworks professionals. Some are reluctant to attend but once they do, they have a greater understanding of the demands of operating a water system. They also see the importance of certified operator continuing education.

Index of Technical Assistance Providers

An index of technical assistance providers was recently completed as a result of a stakeholders meeting at which many of the listed agencies described the services they provide to the waterworks industry. This index has been submitted for publication in *Michigan Water Works News*, a newsletter of the Michigan Department of Environmental Quality (MDEQ) and the Michigan Section, American Water Works Association. The index is a "yellow pages" of technical assistance providers for water suppliers, community leaders, and MDEQ district staff. This index is not all inclusive, but we hope it will serve as a starting point and grow as more organizations make themselves available to systems who need assistance in a capacity issue. Groups included in the index are:

- American Water Works Association
- Michigan Department of Environmental Quality (MDEQ) - DWRPD
- MDEQ - Environmental Assistance Division
- Michigan Rural Water Association
- Rural Community Assistance
- Rural Utilities Service

Services may include hands-on operational training, mentoring, rate studies, loans and grants, cross connection program training, and planning and CCR preparation. Many of these services are available at no cost to the supply. District engineers are now able to refer suppliers to many of these providers.

Technical Assistance Provider Contract

Typically, a much greater percentage of systems that struggle with compliance are small systems. As a result, the DWRPD has contracted with an engineering firm to visit 2,000 community public water systems serving fewer than 5,000 people and provide technical assistance in all areas that impact compliance and capacity. The technical assistance is at no cost to the suppliers. District staff have asked the contractor to visit specific small systems to supplement the efforts of the district engineers with all aspects of capacity assistance. The contractor is also conducting numerous, one-day training sessions throughout the state to educate operators at nontransient noncommunity water systems (schools and daycare centers) and some very small community systems (manufactured housing and apartments) about routine operational responsibilities. When the certification program is expanded in 2002 to require licensed operators at these facilities, this training may assist in the certification of these operators

Funding

The DWRF continues funding two systems that are historically in significant noncompliance. Both these systems are building new water treatment plants to improve plant tap turbidities under all operating conditions. One plant will allow the system to comply with C*T requirements. In addition, one of these suppliers recently requested the final segment of their DWRF loan to construct facilities to remove nitrate.

DWRF set-aside funds are sometimes used to forgive that portion of a loan that is attributed to planning costs for systems defined as disadvantaged by the DWRF rules.

This year Michigan expects to be able to fund all applicants ready to begin their project. Unfortunately, funding for future growth disqualifies an applicant in the DWRF program. For this reason, many suppliers and community leaders look elsewhere for funding.

Several suppliers have applied for Rural Utilities Service (RUS) funding. Recently a township using private wells that produced an insufficient amount of poor quality water contacted RUS and received funds to plan and build a distribution system. The system is in service and the storage tank is under construction. District engineers work closely with the RUS to provide information necessary to prioritize systems most in need of assistance. In addition, a Community Development Block Grant will be used by the supplier of a popular ski resort to help fund a new water system that includes increased storage capacity, a booster station, and transmission mains.

Training and Information

Operator Certification Continuing Education

The new operator certification rules have increased the number of systems required to have a certified operator and, as a result, the need to provide continuing education and training to more operators. Operator training is available in many segments of our program. Michigan's Operator Training and Certification Unit (OTCU) is in another division in the Michigan Department of Environmental Quality (MDEQ), but their efforts are still closely coordinated with our staff. These efforts are one of the keys to our success. The OTCU staff is currently improving training materials and test administration by:

- Updating a distribution manual for operators
- Helping to update a water treatment course offered at a state university and instructed by a water quality manager of a surface water treatment plant
- Publishing on the Internet a calendar of training courses with downloadable application forms
- Publishing updated administrative rules

Soon operators will be able to view their certification status and continuing education credit information on the Internet. The OTCU staff has also increased the frequency of the most popular training courses.

Additionally, for the last four years the staff of the Drinking Water and Radiological Protection Division (DWRPD) section responsible for oversight of the public water systems serving

manufactured housing communities has provided training targeted for operators of these systems. This training is required for operators applying for currently available, restricted licenses. The audience is not only operators, but managers and owners of these community water systems. Many of these operators work at more than one small community water system and for nontransient noncommunity systems as well, so the training is improving the operation and maintenance of many more systems than the number of operators present. The training is slightly different each year to keep the operators interested and engaged. This year the training covered:

- New operator certification requirements
- Rules review
- Consumer Confidence Report (CCR) review
- Procedural updates
- Standby power
- Operation and Maintenance (O & M) manual

The O & M manual session is an expansion of a session on contingency planning that was previously presented. The DWRPD staff also reviewed the Walkerton, Ontario, incident, emphasizing the importance of the work of operators in responding to potential public health threats. In the future, a session is planned that will focus on hands-on training.

Michigan Safe Drinking Water Act, 1976 PA 399, as Amended (Act 399)

Act 399 gives us the authority to inspect and order a supplier to make changes to a system, to limit the expansion of a system, or to limit the water use. The enforcement tools available range from fines applied by policies through MDEQ orders to referring the case to the Michigan Department of Attorney General. As previously mentioned, we practice a program of progressive enforcement. The resource analysts in the community water supply program track violations and initiate the administrative fines. The creation of the resource analyst position discussed earlier has allowed the DWRPD to give greater emphasis to administrative fines, which is one step in the progressive enforcement and return to compliance process.

DWRPD has been discussing some rule changes to strengthen the capacity development program such as incorporating the requirement for a final inspection before commencing operation which is now only required by policy and requiring general plans (water system maps) for all community systems regardless of size. Some of our own rules limit our ability to ensure adequate capacity in all systems. The rules requiring systems to prepare contingency plans and to provide standby power both, exempt small systems serving fewer than 200 people or fewer than 50 service connections. However, because of our capacity development requirements new systems most of which are small are not granted approval to commence operation without a contingency plan. Other requirements for new systems are a sampling site plan and an O & M manual. As a result, only two community water systems that began operating after October 1999 have had a monitoring and reporting or a Maximum Contaminant Level violation. More systems might have avoided violations if our rules did not exempt small systems from these public health measures.

Compliance and Enforcement

Evaluations and compliance information become the basis for enforcement. As mentioned earlier, district staff have been very diligent in performing evaluations this year. As a result, the staff in one of the districts rated several systems deficient for the first time. This district historically has a heavy turnover of district engineers but is now at full staff. As their highest priority, staff of that district have escalated enforcement action against a system for failure to replace lead service lines.

Michigan's administrative fines policy was recently updated to include timely submittals of monthly operation reports and CCRs for which Michigan recently promulgated state rules and has authority to enforce. Now that we have this authority and updated policy, the DWRPD will send a letter of noncompliance to suppliers that have failed to submit a CCR. This letter will direct them to do a CCR within 30 days or the system will be subject to further enforcement.

When fines prove ineffective or continued violations represent a serious public health threat, our staff uses other enforcement tools, such as Notice of Violations (NOVs) and orders. If it is determined that a system has not made satisfactory progress in resolving serious deficiencies since the last evaluation, escalated enforcement is warranted. These enforcement actions are usually initiated by NOVs but in the most serious cases could begin with an order. These actions have caused suppliers to improve their operations, obtain certified operators, change their treatment, or upgrade their source or equipment.

To help district engineers conduct escalated enforcement, the DWRPD is streamlining the various compliance and enforcement tools. Reminder letters for compliance activities are regularly sent to supplies. DWRPD staff have created templates for some of these tools and made them available to the district staff. Correspondence for violations, public notices, and boil water notices are also in template format and available to staff.

DWRPD is also working more closely with the Attorney General's (AG's) Office to streamline the escalated enforcement process. Templates of NOVs, consent agreements, and orders are also accessible to the district engineers. DWRPD plans to include a member of the AG's Office at regular staff meetings.

Nontransient Noncommunity Water Systems (NTNCWS)

The majority of the activities of DWRPD / Noncommunity staff are to assist LHD's and noncommunity systems maintain compliance with the SDWA. These activities include:

- Written annual evaluation of LHD noncommunity program
- Quarterly compliance summary data to LHD's
- Individual technical assistance
- Group training and assistance with implementation including:
    - Source Water Assessment
    - Operator Certification
    - Lead/Copper Minor Revisions
    - Capacity Development
    - Consumer Confidence Reporting
- Support of a data system distributed to LHD's for reporting

- Support of a Website for LHD noncommunity program coordinators
- Development of a Noncommunity Program Manual
- Routine policy updates or clarification memos to LHD's
- Support of a website for Noncommunity system owners
- Enforcement assistance via letters, phone calls, site visits, hearings
- Collection of civil fines issued by LHD's to noncommunity systems for monitoring or MCL violations
- Technical Assistance Contract to help schools and child care facilities comply with SDWA
- Providing brochures, fact sheets, and other informational material.

Summary

Michigan expects to see more systems with increased capacity in FY 2002, with continued increased emphasis put on:

- Surveillance visits and routine evaluations
- Use of technical assistance providers
- More efficient use of enforcement tools

Capacity assistance provided by the district engineers will continue to be the primary component of Michigan's capacity development program, with a greater emphasis placed on referring deficient and marginally rated systems to other technical assistance providers as well.

Nontransient Noncommunity Water Systems (NTNCWS)

Using available resources and approaches, the following was accomplished statewide for all noncommunity systems based on data from one year ago:

- Monitoring and reporting violations decreased 3%.
- MCL violations decreased 2%.
- The sanitary survey backlog decreased 3%.
- Priority One enforcement candidates (essentially SNC's) decreased 35%.
- Issuance of civil fines by LHD's for monitoring and reporting violations increased 45% over last year.

Michigan will continue to use the tools described above to assist LHD's and noncommunity water systems attain acceptable compliance levels. However, it is anticipated available resources will not keep pace with increasing regulation of noncommunity systems including; Operator Certification, Lead/Copper Minor Revisions, Capacity Development, Ground Water Rule, and Arsenic. New regulations not only present new opportunities for violations, they can also erode compliance with existing rules by diverting resources.